

HOUSE SPIDERS OF KANSAS

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ABSTRACT: Spiders found in and around buildings may be divided into three categories: 1) true synanthropes, which can establish breeding populations in houses, seldom occur locally in the natural environment, and have broad ranges because they may be accidentally transported to new locations, 2) spiders which are seasonally abundant in natural habitats as well as in houses, but don't establish breeding populations in houses, 3) spiders which are rarely found in houses because they are locally rare or spiders that are locally common but are rarely found indoors. Fifteen species, including the venomous *Loxosceles relusa* and *Cheiracanthium mildei* are true synanthropes in Kansas. Category 2 contains 26 species, including the venomous species *Latrodectus hesperus*, *L. mactans*, and *L. variolus*. There are 33 species which are rarely found indoors in Kansas. Most species listed have been reported from buildings across the United States.

The interest of a homeowner is usually aroused when a spider is discovered inside the house. Since there are at least five species of Kansas spiders which can inflict bites serious enough to require medical attention, common questions that immediately come to mind are: "Is this spider venomous?", and "Can it hurt me?". Another concern is whether the house is "infested" with spiders, and what can be done to eliminate an infestation. In response to these questions, information on spiders found in and around houses, buildings, and other structures in Kansas was gathered from the author's personal collection and field notes, the spider collection of the University of Kansas Snow Entomological Museum, and the literature. Most records are from the Lawrence area in northeastern Kansas because this region has been more intensively studied than other parts of the state. The scientific names of spiders and their order in Tables 1–3 follow Platnick (1997). The relative prevalence of spiders in Kansas homes ranges from very common, common, occasional, uncommon to rare. Very common and common species are routinely found in buildings, while rare, uncommon and occasional species have been encountered on 1–5, 6–10, and 11–15 occasions, respectively.

Because Kansas is located at the center of the continental United States and contains a wide variety of natural habitats, including eastern deciduous forest and tallgrass and shortgrass prairies, it is the home of a diverse

array of plants and animals. The Kansas flora, for example, exhibits geographical affinities with eastern, southern, northern, western, and interior plant communities (Bare & McGregor 1970). Preliminary studies of the spider fauna of the state reveal a similar pattern (Fitch & Fitch 1966; Guarisco & Fitch 1995; Guarisco & Kinman 1990; Scheffer 1904, 1905). Therefore, many of the spiders encountered in Kansas homes can also be found in other parts of the continent. Some building-inhabiting species have even wider distributions, with populations on several continents.

House spiders can be conveniently divided into three categories. True synanthropes are associated with houses, can establish breeding populations in these locations, and usually have very wide distributions because they are often accidentally transported to new areas. They seldom occur locally in the natural environment. The second category includes species which are seasonally abundant in natural habitats and in houses. Although some may hibernate indoors, and the emergence of large numbers of spiderlings from an occasional eggsac may give the impression of an infestation, these species do not establish populations inside houses. The third category contains species which are rarely found in and around buildings. They are either common in natural situations and rarely frequent houses, or they are locally rare species. As Edwards & Edwards (1997) have indicated in their study of the spiders of rural delivery mailbox-

Table 1.—Synanthropic (associated with people) spiders in Kansas (Category 1). VC = very common, C = common, O = occasional, U = uncommon, R = rare.

| Species | Distribution | Abundance |
|--|--|-----------|
| <i>Loxosceles reclusa</i> Gertsch & Mulaik 1940 | US | VC |
| <i>Scytodes thoracica</i> (Latreille 1802) | Cosmopolitan | R |
| <i>Pholcus phalangioides</i> (Fuesslin 1775) | Cosmopolitan | C |
| <i>Spermophora senoculata</i> (Duges 1836) | Holarctic | R |
| <i>Dysdera crocata</i> C.L. Koch 1838 | Cosmopolitan | O |
| <i>Oecobius cellariorum</i> (Duges 1836) | US, Europe | O |
| <i>Octonoba sinensis</i> (Simon 1880) | eastern US & Orient | O |
| <i>Achaearanea tepidariorum</i> (C.L. Koch 1841) | Cosmopolitan | VC |
| <i>Steatoda triangulosa</i> (Walckenaer 1802) | Cosmopolitan | VC |
| <i>Tegenaria domestica</i> (Clerck 1757) | Cosmopolitan | C |
| <i>Amaurobius ferox</i> (Walckenaer 1830) | eastern US, Europe | O |
| <i>Cheiracanthium mildei</i> L. Koch 1864 | US, Europe, north Africa | C |
| <i>Urozelotes rusticus</i> (L. Koch 1872) | Cosmopolitan | R |
| <i>Salticus scenicus</i> (Clerck 1757) | N. & S. America, Europe, north Africa | U |
| <i>Sitticus fasciger</i> (Simon 1880) | North America, Asia | R |

es in Massachusetts, eventually individuals of all local species will be found in or around buildings. In addition to these three categories, alien species have been occasionally found in Kansas. These species are usually found in produce, such as bananas, and seldom establish breeding populations.

RESULTS

The list of true synanthropic spiders in Kansas presently contains 15 species (Table 1). The bites of two of these, *Loxosceles reclusa* (Sicariidae) and *Cheiracanthium mildei* (Miturgiidae) can produce necrotic lesions that require medical attention (Gorham 1968; Spielman & Levi 1970), and the former is often present in large numbers in Kansas buildings. A sticky trap survey in the University of Kansas Museum of Natural History yielded 231 spiders in a two year period, 46.7% of these were *L. reclusa*. Two very common species occasionally play beneficial roles in houses. *Achaearanea tepidariorum* (Theridiidae) was observed preying upon the lone star tick, *Amblyomma americanum* (Linnaeus) (Acarina: Ixodidae), and *Steatoda triangulosa* (Theridiidae) fed upon the brown recluse, *L. reclusa* (Guarisco 1991). Studies in New Zealand revealed that *Pholcus phalangioides* (Pholcidae) actively invades spider webs and preys upon its occupants (Jackson & Brassington 1987).

There are approximately 26 spider species which are seasonally abundant in natural en-

vironments and edificarian habitats (Table 2). The bites of *Herpyllus ecclesiasticus* (Gnaphosidae) (Majeski & Durst 1975), *Argiope aurantia* (Argiopidae) (Gorham & Rheney 1968), *Trachelas tranquillus* (Corinnidae) (Oehler 1971; Uetz 1973), and *Phidippus audax* (Salticidae) (Gorham 1968) have produced mostly local reactions; however, those of black widow spiders (*Latrodectus* sp.) can have much more serious consequences (White et al. 1995). In Kansas, black widows are sometimes discovered in outbuildings, garages and carports.

Mimetus puritanus (Mimetidae) and *M. notius* are specialized spider predators which are occasionally found on house eaves near or within host webs. *Euryopsis limbata* (Theridiidae) occurs on walls and eaves of houses where females produce semicircular, tufted eggsacs. Two Kansas feeding records and observations elsewhere in its range (Archer 1946; Carico 1978) indicate this species' diet consists of ants. *Larinioides cornutus* (Argiopidae) and *L. patagiatus* build orbwebs on buildings and bridges near water. The large orbwebs of *Argiope aurantia*, *A. trifasciata* (Argiopidae), and *Neoscona crucifera* (Argiopidae) attract attention when located on porches and windows. The large fishing spider, *Dolomedes tenebrosus* (Pisauridae) is often found in sheds, basements and houses. Funnelweb weavers (*Agelenopsis* sp.) are of-

Table 2.—Seasonally common spiders in Kansas homes (Category 2). VC = very common, C = common, O = occasional, U = uncommon, R = rare.

| Species | Distribution | Abundance |
|--|-----------------------------|-----------|
| <i>Mimetes notius</i> Chamberlin 1923 | eastern US | O |
| <i>Mimetes puritanus</i> Chamberlin 1923 | eastern US | O |
| <i>Euryopsis limbata</i> (Walckenaer 1841) | eastern US, Canada | O |
| <i>Latrodectus hesperus</i> Chamberlin & Ivie 1935 | western US, Israel | O |
| <i>Latrodectus mactans</i> (Fabricius 1775) | North America | O |
| <i>Latrodectus variolus</i> Walckenaer 1837 | eastern US, Canada | U |
| <i>Steatoda borealis</i> (Hentz 1850) | US, Canada, Alaska | O |
| <i>Theridion murarium</i> Emerton 1882 | North America | C |
| <i>Argiope aurantia</i> (Lucas 1833) | North America to Costa Rica | O |
| <i>Argiope trifasciata</i> (Forsk. 1775) | Cosmopolitan | O |
| <i>Larinioides cornutus</i> (Clerck 1757) | Holarctic | VC |
| <i>Larinioides patagiatus</i> (Clerck 1757) | Holarctic | O |
| <i>Neoscona crucifera</i> (Lucas 1839) | North America, Canary Isl. | VC |
| <i>Hogna carolinensis</i> (Walckenaer 1805) | southern Canada, US | U |
| <i>Dolomedes tenebrosus</i> Hentz 1843 | eastern US, Canada | C |
| <i>Agelenopsis naevia</i> (Walckenaer 1841) | US, Canada | VC |
| <i>Agelenopsis pennsylvanica</i> (C.L. Koch 1843) | US | VC |
| <i>Hibana gracilis</i> (Hentz 1847) | eastern US, Canada | C |
| <i>Elaver excepta</i> (L. Koch 1866) | eastern US, West Indies | O |
| <i>Castianeira variata</i> Gertsch 1942 | eastern US, southern Canada | U |
| <i>Trachelas tranquillus</i> (Hentz 1847) | eastern US, southern Canada | O |
| <i>Herpyllus ecclesiasticus</i> Hentz 1832 | North America | C |
| <i>Philodromus vulgaris</i> (Hentz 1847) | Holarctic | VC |
| <i>Maevia inclemens</i> (Walckenaer 1837) | US, Canada | C |
| <i>Phidippus audax</i> (Hentz 1845) | US, Canada | VC |
| <i>Platycryptus undatus</i> (De Geer 1778) | North & Central America | VC |

ten located in corners, windows, and porches, while *Hibana gracilis* (Anyphaenidae), *Elaver excepta* (Clubionidae), and *Philodromus vulgaris* (Philodromidae) occur most often on ceilings and walls. The robust, hairy jumping spider, *Phidippus audax*, is often mistaken for a black widow by the homeowner because of its coloration.

The last category of spiders includes 33 species which occur in natural habitats and have rarely been found in or on buildings in Kansas (Table 3). Further investigation, especially in other sections of the state, would undoubtedly add species to this list. Two alien species have been found in northeastern Kansas. A tropical spider belonging to the genus *Cupiennius* (Ctenidae) was discovered in a produce shipment at the local community mercantile (Cutler pers. comm.). An adult female *Hibana cambridgei* (Bryant 1931) (Anyphaenidae) was found inside a Lawrence, Kansas residence. The owner may have acci-

dentally imported this spider from Arkansas when returning from a weekend trip.

DISCUSSION

The present study provides baseline data concerning house spiders in northeastern Kansas. The 15 synanthropic species and most of the seasonally common species found in northeastern Kansas homes have been reported from houses across the United States (Cutler 1973; Kaston 1983). *Amaurobius ferox* (Amaurobiidae) (Guarisco 1989), *Scytodes thoracica* (Scytodidae), *Cheiracanthium mildiei* (Guarisco 1991), and *Sitticus fasciger* (Salticidae) were first found in the Lawrence area in the late 1980s. Today, *C. mildiei* is one of the most common local house spiders. Since its arrival in North America during the late 1940s (Bryant 1951), this old world species has spread from Boston and New York to southern Ontario, Illinois, California, and Alabama (Dondale & Redner 1982), and has re-

Table 3.—Spiders of rare occurrence in/on Kansas homes (Category 3).

| Species | Distribution |
|---|---------------------------|
| <i>Mimetus epeiroides</i> Emerton 1882 | eastern US |
| <i>Theridion goodnighthorum</i> Levi 1957 | western US |
| <i>Stemonyphantes blauveltae</i> Gertsch 1951 | US, Canada |
| <i>Araneus pagnia</i> (Walckenaer 1841) | US to Ecuador, Jamaica |
| <i>Hogna helluo</i> (Walckenaer 1837) | US, Canada |
| <i>Pirata</i> sp. | |
| <i>Rabidosa punctulata</i> (Hentz 1844) | US |
| <i>Schizocosa ocreata</i> (Hentz 1844) | North America |
| <i>Pisaurina dubia</i> (Hentz 1847) | US |
| <i>Pisaurina mira</i> (Walckenaer 1837) | US, Canada |
| <i>Agelenopsis oklahoma</i> (Gertsch 1936) | US |
| <i>Anyphaena fraterna</i> (Banks 1896) | US |
| <i>Castianeira descripta</i> (Hentz 1847) | US, Canada |
| <i>Castianeira variata</i> Gertsch 1942 | US, Canada |
| <i>Drassyllus lepidus</i> (Banks 1899) | US |
| <i>Drassyllus novus</i> (Banks 1895) | US, Canada |
| <i>Sergiolus montanus</i> (Emerton 1890) | North America |
| <i>Zelotes hentzi</i> Barrows 1945 | US, Canada |
| <i>Zora pumila</i> (Hentz 1850) | US |
| <i>Philodromus keyserlingi</i> Marx 1889 | US, Canada |
| <i>Philodromus marxi</i> Keyserling 1884 | US |
| <i>Thanatus formicinus</i> (Clerck 1757) | Holarctic |
| <i>Thanatus rubicellus</i> Mello-Leitao 1929 | US, Canada |
| <i>Bassaniana versicolor</i> (Keyserling 1880) | North America |
| <i>Misumenops oblongus</i> (Keyserling 1880) | Canada to Guatemala |
| <i>Xysticus auctificus</i> Keyserling 1880 | US, Canada |
| <i>Xysticus ferox</i> (Hentz 1847) | US, Canada |

Table 3.—Continued

| Species | Distribution |
|--|--------------|
| <i>Xysticus texanus</i> Banks 1904 | US, Mexico |
| <i>Habrocestum pulex</i> (Hentz 1846) | US, Canada |
| <i>Phidippus insignarius</i> C.L. Koch 1846 | US |
| <i>Phidippus putnami</i> (Peckhams 1883) | US, Mexico |
| <i>Phidippus whitmani</i> (Peckhams 1909) | US, Canada |
| <i>Tutelina elegans</i> (Hentz 1846) | US |

placed the native *C. inclusum* (Hentz 1847) (Clubionidae) in houses in the northeastern United States (Gertsch 1979). The mobility of today's society has hastened the spread of synanthropic spiders. Other notable instances of spiders being found well beyond their native ranges include, the western black widow (*L. hesperus*) and the brown recluse (*Loxosceles reclusa*) in Maine (Jennings & McDaniel 1988; McDaniel & Jennings 1983). The native *Steatoda borealis* (Theridiidae) has been displaced by the European species, *S. bipunctata* (Linnaeus 1758), in buildings in the northeastern United States (Nyffeler et al. 1986). Recent surveys of the spider fauna of Cape Cod, Massachusetts revealed the presence of two possible European immigrants, *Trochosa ruricola* (De Geer 1778) (Lycosidae) and *Lepthyphantes tenuis* (Blackwall 1852) (Linyphiidae) (Edwards 1993).

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